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CLAIMS

1. A compound of formula (I)

$$A - CO - B N - SO_2 - D$$
(I)

wherein:

A is a 5- or 6-membered monocyclic aromatic ring containing 1, 2 or 3 ring heteroatoms selected from nitrogen, oxygen and sulphur atoms and is unsubstituted or is substituted by 10 one, two or three atoms or groups selected from halo, oxo, carboxy, trifluoromethyl, cyano, amino, hydroxy, nitro, C1.4alkyl, C1.4alkoxy, C1.4alkoxycarbonyl, C1.4alkylamino, di-C₁₋₄alkylamino or aminoC₁₋₄alkyl;

- the 1,4-phenylene ring of a compound of formula (I) is either unsubstituted or is substituted 15 by one or two substituents selected from halo, trifluoromethyl, trifluoromethoxy, cyano, nitro, C_{1-4} alkyl, C_{2-4} alkenyl and C_{2-4} alkynyl, from the substituent - $(CH_2)_n Y^1$ wherein n is 0-4 and Y1 is selected from hydroxy, amino, carboxy, C1-4alkoxy, C2-4alkenyloxy, C2-4alkynyloxy, C₁₋₄alkylamino, di-C₁₋₄alkylamino, pyrrolidin-1-yl, piperidino, morpholino, thiomorpholino, 1-oxothiomorpholino, 1,1-dioxothiomorpholino, piperazin-1-yl, 4-C₁₋₄alkylpiperazin-1-yl,
- 20 C₁₋₄alkylthio, C₁₋₄alkylsulphinyl, C₁₋₄alkylsulphonyl, C₂₋₄alkanoylamino, benzamido, C₁₋₄alkylsulphonamido and phenylsulphonamido, from the substituent -(CH₂)_nY² wherein n is 0-4 and Y^2 is selected from carboxy, carbamoyl, C_{1-4} alkoxycarbonyl, $N-C_{1-4}$ alkylcarbamoyl, <u>N,N</u>-di-C₁₋₄alkylcarbamoyl, pyrrolidin-1-ylcarbonyl, piperidinocarbonyl, morpholinocarbonyl, thiomorpholinocarbonyl, 1-oxothiomorpholinocarbonyl,
- 25 1,1-dioxothiomorpholinocarbonyl, piperazin-1-ylcarbonyl, 4-C₁₋₄alkylpiperazin-1-ylcarbonyl, C₁₋₄alkylsulphonamidocarbonyl, phenylsulphonamidocarbonyl and benzylsulphonamidocarbonyl, from a substituent of the formula -X3-L2-Y2 wherein X3 is a group of the formula CON(R5), CON(L2-Y2), C(R5)2O, O, N(R5) or N(L2-Y2), L2 is

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C₁₋₄alkylene, Y² has any of the meanings defined immediately hereinbefore and each R⁵ is independently hydrogen or C₁₋₄alkyl, and from a substituent of the formula -X³-L³-Y¹ wherein X³ is a group of the formula CON(R⁵), CON(L³-Y¹), C(R⁵)₂O, O, N(R⁵) or N(L³-Y¹), L³ is C₂₋₄alkylene, Y¹ has any of the meanings defined immediately hereinbefore and each R⁵ is independently hydrogen or C₁₋₄alkyl, and wherein any heterocyclic group in a substituent of the 1,4-phenylene ring of compounds of formula (I) optionally bears 1 or 2 substituents selected from carboxy, carbamoyl, C₁₋₄alkyl, C₁₋₄alkoxycarbonyl, N-C₁₋₄alkylcarbamoyl and N,N-di-C₁₋₄alkylcarbamoyl, and wherein any phenyl group in a substituent of the 1,4-phenylene ring of compounds of formula (I) optionally bears 1 or 2 substituents selected from halo, trifluoromethyl, cyano, C₁₋₄alkyl, C₂₋₄alkenyl, C₂₋₄alkynyl, C₁₋₄alkoxy, C₂₋₄alkenyloxy and C₂₋₄alkynyloxy;

B is CH or N;

- 15 the heterocyclic ring containing B is either unsubstituted or is substituted by one or two substituents selected from hydroxy, oxo, carboxy and C₁₋₄alkoxycarbonyl; or one of the following:
 - -(CH₂)_n-R, -(CH₂)_n-NRR¹, -CO-R , -CO-NRR¹, -(CH₂)_n-CO-R and -(CH₂)_n-CO-NRR¹; wherein n is 0, 1 or 2, preferably n is 1 or 2;
- 20 R and R¹ are independently selected from hydrogen, C₁₋₄alkyl, C₂₋₄alkenyl, C₂₋₄alkynyl, hydroxyC₁₋₄alkyl, carboxyC₁₋₄alkyl and C₁₋₄alkoxycarbonylC₁₋₄alkyl or where possible R and R¹ may together form a 5- or 6-membered optionally substituted saturated or partially unsaturated heterocyclic ring which may include in addition to the nitrogen to which R and R¹ are attached 1 or 2 additional heteroatoms selected from nitrogen, oxygen and sulphur;

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- D is 2-indolyl, 2-benzimidazolyl, 2-benzo[b]furanyl, 2-pyrrolo[2,3-b]pyridyl, 2-furo[2,3-b]pyridyl or 6-7H-cyclopenta[b]pyridyl and is unsubstituted or is substituted by one, two or three substituents selected from halo, trifluromethyl, trifluromethoxy, cyano, hydroxy, oxo, amino, nitro, trifluromethylsulphonyl, carboxy, carbamoyl, C₁₋₄alkyl, C₂₋₄alkenyl,
- 30 C₂₋₄alkynyl, C₁₋₄alkoxy, C₂₋₄alkenyloxy, C₂₋₄alkynyloxy, C₁₋₄alkylthio, C₁₋₄alkylsulphinyl, C₁₋₄alkylsulphonyl, C₁₋₄alkylamino, di-C₁₋₄alkylamino, C₁₋₄alkoxycarbonyl,

N-C₁₋₄alkylcarbamoyl, N,N-di-C₁₋₄alkylcarbamoyl, C₂₋₄alkanoyl, C₂₋₄alkanoylamino, hydroxyC₁₋₄alkyl, C₁₋₄alkoxyC₁₋₄alkyl, carboxyC₁₋₄alkyl, C₁₋₄alkyl, C₁₋₄alkyl, C₁₋₄alkyl, N-C₁₋₄alkyl, N-C₁₋₄alkyl, N-C₁₋₄alkyl, N,N-di-C₁₋₄alkylcarbamoylC₁₋₄alkyl, phenyl, heteroaryl, phenoxy, phenylthio, phenylsulphinyl, phenylsulphonyl, benzyl, benzoyl, heteroaryloxy, heteroarylthio, heteroarylsulphinyl and heteroarylsulphonyl, and wherein said heteroaryl substituent or the heteroaryl group in a heteroaryl-containing substituent is a 5- or 6-membered monocyclic heteroaryl ring containing up to 3 heteroatoms selected from nitrogen, oxygen and sulphur, and wherein said phenyl, heteroaryl, phenoxy, phenylthio, phenylsulphinyl, phenylsulphonyl, heteroaryloxy, heteroarylthio, heteroarylsulphinyl,
10 heteroarylsulphonyl, benzyl or benzoyl substituent optionally bears 1, 2 or 3 substituents selected from halo, trifluoromethyl, cyano, hydroxy, amino, nitro, carboxy, carbamoyl, C₁₋₄alkyl, C₁₋₄alkoxy, C₁₋₄alkylamino, di-C₁₋₄alkylamino, C₁₋₄alkoxycarbonyl, N-C₁₋₄alkylcarbamoyl, N,N-di-C₁₋₄alkylcarbamoyl and C₂₋₄ alkanoylamino; and excluding the compound 1-(5-chlorobenzofuran-2-ylsulphonyl)-4-[4-(4-pyridyl)benzoyl]
piperazine;

2. A compound of formula (I) as claimed in claim 1 wherein A is a pyridyl, pyrimidinyl, imidazolyl or pyridazinyl ring.

and pharmaceutically-acceptable salts thereof.

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- 3. A compound of formula (I) as claimed in claim 2 wherein A is 2-pyridyl, 3-pyridyl, 4-pyridyl 3-pyradazinyl, 4-pyridazinyl, 4-pyrimidinyl, 5-pyrimidinyl, 1-imidazolyl, 2-imidazolyl or 4-imidazolyl.
- 25 4. A compound of formula (I) as claimed in any claim from 1 to 3 wherein A is substituted by C₁₋₄alkyl, amino and halo.
 - 5. A compound of formula (I) as claimed in any claim from 1 to 3 wherein A is unsubstituted.
 - 6. A compound of formula (I) as claimed in any claim from 1 to 5 wherein the

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- 1,4-phenylene ring is substituted by oxo, carboxy, C₁₋₄alkoxy or C₁₋₄alkoxycarbonyl.
- 7. A compound of formula (I) as claimed in any claim from 1 to 5 wherein the 1,4-phenylene ring is unsubstituted.
- 8. A compound of formula (I) as claimed in any claim from 1 to 7 wherein the heterocyclic ring containing B is substituted by oxo, carboxy, C₁₋₄alkoxy or C₁₋₄alkoxycarbonyl.
- 10 9. A compound of formula (I) as claimed in any claim from 1 to 7 wherein the heterocyclic ring containing B is unsubstituted.
 - 10. A compound of formula (I) as claimed in any claim from 1 to 9 wherein D is substituted by halo.
 - 11. A compound of formula (I) as claimed in any claim from 1 to 9 wherein D is substituted by bromo or chloro.
 - 12. A compound of formula (I) as claimed in claim 1 wherein:
- 20 A is pyridyl, pyrimidinyl, imidazolyl or pyridazinyl; B is N;
 - D is 2-indolyl or 2-benzo[b] furanyl both optionally substituted by fluoro, chloro or bromo; and pharmaceutically-acceptable salts thereof.
- 25 13. 1-(5-Chloroindol-2-ylsulphonyl)-4-[4-(4-pyridyl)benzoyl] piperazine or a pharmaceutically-acceptable salts thereof.
 - 14. 1-(5-Chloroindol-2-ylsulphonyl)-4-[4-(1-imidazolyl)benzoyl] piperazine or a pharmaceutically-acceptable salts thereof.

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- 15. A compound of formula (I), as defined in any claim from 1 to 14, or a pharmaceutically-acceptable salt thereof for use in medical therapy.
- 16. A pharmaceutical composition comprising a compound of formula (I), or a
 5 pharmaceutically-acceptable salt thereof, as defined in any claim from 1 to 14, with a pharmaceutically-acceptable diluent or carrier.
- 17. Use of a compound of formula (I), as defined in any claim from 1 to 14, or a pharmaceutically-acceptable salt thereof, in the preparation of a medicament for use in a method of treating a Factor Xa mediated disease or condition.
 - 18. A method of treating a Factor Xa mediated disease or condition in a warm-blooded animal comprising administering an effective amount of a compound of formula (I), as defined in any claim from 1 to 14, or a pharmaceutically-acceptable salt thereof.